ORIGINAL

NEW APPLICATION

Arizona Corporation Commission
Financing Application
Holiday Water Company
Docket No. W-01896A

1. **The applicant's exact name and the address of its principal business office.**

Carol E Cowan, President/Manager
Holiday Enterprises, Inc dba
Holiday Water Company
P.O. Box 309
Tombstone, AZ 85638

W-01896A-13-0239

2. **Name and address of the person authorized, on behalf of applicant, to receive notices and communications regarding the application.**

Carol E Cowan
holidaywtr@gmail.com
PO Box 1251
Tombstone, AZ 85638
520-508-9037

3. **A full description of the financings proposed to be issued showing the kind, nature and amount, the interest rate if any and its frequency, date of maturity, call features, voting privileges, and other detailed information regarding the financing itself. If the financing is debt, then provide a schedule of interest and principle payments. If the financing is a line of credit, then provide a schedule of expected draw downs.**

Holiday Water Company is seeking Disadvantaged Community Financial Assistance from the Water Infrastructure Finance Authority (WIFA) in the amount of $225,000 with a 20-year term through the Drinking Water Revolving Fund (DWRF). WIFA loan officers will not undertake financial analysis until after the Commission approves a Financing Case (Debt Authorization); however WIFA's Rules and Policies were used to prepare and estimate financing impacts.

Three scenarios were run to cover uncertainties between ACC and WIFA. First, the standard WIFA rate setting for non-governmental systems dictates "Prime rate plus 2%" today that would be 5.25%. The three scenarios were: 1) with no subsidy index, 2) with an interest rate of 4.2% (assuming an 80% subsidy index) and 3) a Disadvantaged Community policy rate which would allow rate to be set below 4% with adjustments after year five of the loan.
See Exhibit A for WIFA's Disadvantaged Community Policy

SCENARIO 1 – No Subsidy Index

Terms and Conditions

Loan Amount	**$225,000.00**
Term	**20**
Combined Interest & Fee Rate	
Interest Rate Index	5.25%
Subsidy Rate Index	100.00%
Combined Interest & Fee Rate	**5.25%**
Coverage Requirement	**20.00%**
Debt Service Reserve Requirement	**$18,193.79**
# of Years Debt Service Reserve Funded	5

Monthly Fixed Payment to WIFA

Prior to Debt Service Reserve Requirement	
Monthly Fixed Payment to WIFA	1,516.15
Monthly Debt Service Reserve Deposit	303.23
Total Monthly Fixed Payment	**$1,819.38**
After Debt Service Reserve Requirement	
Monthly Fixed Payment to WIFA	1,516.15
Monthly Debt Service Reserve Deposit	0.00
Total Monthly Fixed Payment	**$1,516.15**

Monthly Replacement Fund Deposit -- Held Locally

Prior to Debt Service Reserve Requirement	**$0.00**
After Debt Service Reserve Requirement	**$303.23**

Annual Fiscal Impact

Year	Annual Debt Service	Reserve Fund Deposit	Replacement Fund Deposit	Total Annual Fiscal Impact
1	18,193.79	3,638.76	0.00	21,832.55
2	18,193.79	3,638.76	0.00	21,832.55
3	18,193.79	3,638.76	0.00	21,832.55
4	18,193.79	3,638.76	0.00	21,832.55
5	18,193.79	3,638.76	0.00	21,832.55
6	18,193.79	0.00	3,638.76	21,832.55
7	18,193.79	0.00	3,638.76	21,832.55
8	18,193.79	0.00	3,638.76	21,832.55
9	18,193.79	0.00	3,638.76	21,832.55
10	18,193.79	0.00	3,638.76	21,832.55
11	18,193.79	0.00	3,638.76	21,832.55
12	18,193.79	0.00	3,638.76	21,832.55
13	18,193.79	0.00	3,638.76	21,832.55
14	18,193.79	0.00	3,638.76	21,832.55
15	18,193.79	0.00	3,638.76	21,832.55
16	18,193.79	0.00	3,638.76	21,832.55
17	18,193.79	0.00	3,638.76	21,832.55
18	18,193.79	0.00	3,638.76	21,832.55
19	18,193.79	0.00	3,638.76	21,832.55
20	18,193.79	0.00	3,638.76	21,832.55
	$363,875.85	**$18,193.79**	**$54,581.38**	**$436,651.02**

SCENARIO 2 – Interest Rate of 4.2%

Terms and Conditions

Loan Amount	**$225,000.00**
Term	**20**
Combined Interest & Fee Rate	
Interest Rate Index	5.25%
Subsidy Rate Index	80.00%
Combined Interest & Fee Rate	**4.20%**
Coverage Requirement	**20.00%**
Debt Service Reserve Requirement	**$16,647.41**
# of Years Debt Service Reserve Funded	5

Monthly Fixed Payment to WIFA

Prior to Debt Service Reserve Requirement	
Monthly Fixed Payment to WIFA	1,387.28
Monthly Debt Service Reserve Deposit	277.46
Total Monthly Fixed Payment	**$1,664.74**
After Debt Service Reserve Requirement	
Monthly Fixed Payment to WIFA	1,387.28
Monthly Debt Service Reserve Deposit	0.00
Total Monthly Fixed Payment	**$1,387.28**

Monthly Replacement Fund Deposit -- Held Locally

Prior to Debt Service Reserve Requirement	**$0.00**
After Debt Service Reserve Requirement	**$277.46**

Annual Fiscal Impact

Year	Annual Debt Service	Reserve Fund Deposit	Replacement Fund Deposit	Total Annual Fiscal Impact
1	16,647.41	3,329.48	0.00	19,976.89
2	16,647.41	3,329.48	0.00	19,976.89
3	16,647.41	3,329.48	0.00	19,976.89
4	16,647.41	3,329.48	0.00	19,976.89
5	16,647.41	3,329.48	0.00	19,976.89
6	16,647.41	0.00	3,329.48	19,976.89
7	16,647.41	0.00	3,329.48	19,976.89
8	16,647.41	0.00	3,329.48	19,976.89
9	16,647.41	0.00	3,329.48	19,976.89
10	16,647.41	0.00	3,329.48	19,976.89
11	16,647.41	0.00	3,329.48	19,976.89
12	16,647.41	0.00	3,329.48	19,976.89
13	16,647.41	0.00	3,329.48	19,976.89
14	16,647.41	0.00	3,329.48	19,976.89
15	16,647.41	0.00	3,329.48	19,976.89
16	16,647.41	0.00	3,329.48	19,976.89
17	16,647.41	0.00	3,329.48	19,976.89
18	16,647.41	0.00	3,329.48	19,976.89
19	16,647.41	0.00	3,329.48	19,976.89
20	16,647.41	0.00	3,329.48	19,976.89
	$332,948.20	**$16,647.41**	**$49,942.23**	**$399,537.84**

SCENARIO 3 – Disadvantaged Community Policy – as low as 2.00% to obtain the required debt service coverage.

Terms and Conditions

Loan Amount	**$225,000.00**
Term	**20**
Combined Interest & Fee Rate	
Interest Rate Index	5.25%
Subsidy Rate Index	38.00%
Combined Interest & Fee Rate	**2.00%**
Coverage Requirement	**20.00%**
Debt Service Reserve Requirement	**$13,652.46**
# of Years Debt Service Reserve Funded	5

Monthly Fixed Payment to WIFA

Prior to Debt Service Reserve Requirement	
Monthly Fixed Payment to WIFA	1,137.70
Monthly Debt Service Reserve Deposit	227.54
Total Monthly Fixed Payment	**$1,365.25**
After Debt Service Reserve Requirement	
Monthly Fixed Payment to WIFA	1,137.70
Monthly Debt Service Reserve Deposit	0.00
Total Monthly Fixed Payment	**$1,137.70**

Monthly Replacement Fund Deposit -- Held Locally

Prior to Debt Service Reserve Requirement	**$0.00**
After Debt Service Reserve Requirement	**$227.54**

Annual Fiscal Impact

Year	Annual Debt Service	Reserve Fund Deposit	Replacement Fund Deposit	Total Annual Fiscal Impact
1	13,652.46	2,730.49	0.00	16,382.95
2	13,652.46	2,730.49	0.00	16,382.95
3	13,652.46	2,730.49	0.00	16,382.95
4	13,652.46	2,730.49	0.00	16,382.95
5	13,652.46	2,730.49	0.00	16,382.95
6	13,652.46	0.00	2,730.49	16,382.95
7	13,652.46	0.00	2,730.49	16,382.95
8	13,652.46	0.00	2,730.49	16,382.95
9	13,652.46	0.00	2,730.49	16,382.95
10	13,652.46	0.00	2,730.49	16,382.95
11	13,652.46	0.00	2,730.49	16,382.95
12	13,652.46	0.00	2,730.49	16,382.95
13	13,652.46	0.00	2,730.49	16,382.95
14	13,652.46	0.00	2,730.49	16,382.95
15	13,652.46	0.00	2,730.49	16,382.95
16	13,652.46	0.00	2,730.49	16,382.95
17	13,652.46	0.00	2,730.49	16,382.95
18	13,652.46	0.00	2,730.49	16,382.95
19	13,652.46	0.00	2,730.49	16,382.95
20	13,652.46	0.00	2,730.49	16,382.95
	$273,049.15	**$13,652.46**	**$40,957.37**	**$327,658.98**

4. **A statement showing the expected gross proceeds, issuance expenses, and net proceeds from the issuance and sale.**

   Gross proceeds will be $225,000. WIFA uses a Combined Interest and Fee Rate (CIFR), so there are no extra fees such as closing costs. The funds are distributed by WIFA as the agreed upon work is completed, similar to a line of credit.

5. **A complete description of the uses of the net proceeds, including descriptions of plant, property, or other assets to be acquired. Provide any capital expenditure budget that supports the proposed use of proceeds.**

   Drill new well at main well location & install an additional 5,000 gallons of storage.

   Purchase additional well & a 1 acre well site at East end of system (Well 2), install Booster Station & 2-10,000 gallon storage tanks to assist with having sufficient storage & establishing individual pressure zones.

   Install 2 Pressure Sustaining Valves at key locations to establish 2 pressure zones.

   Purchase used John Deere Backhoe for use in all functions of the water company.

   For a more complete description, see **Exhibit B**.

   Using funds from the WIFA Technical Assistance Program, the Company engaged Tres Rios Consulting Engineers to prepare an Approval to Construct (ATC) Application. **See Exhibit B for ADEQ ATC Application**

   It must be noted that any project that received financing through WIFA must include Davis-Bacon Act requirements in the Bids. **See Exhibit C for Contract Package for Non-Governmental Borrowers.** Prevailing wages for Cochise County must be paid and verified for each category of worker.

   The overall budget for the project would need to cover the following areas:
   - Legal/Debt Authorization - $8,000
   - Construction/Installation/Improvement - $205,000
   - Inspection/Construction Management - $12,000

6. **A statement that demonstrates why the financing is:**
   a. **Within the corporate powers of the applicant;**
   b. **Compatible with the public interest;**
   c. **Compatible with sound financial practices; and,**
   d. **Compatible with the proper performance by the applicant of service as a public service corporation and will not impair its ability to perform that service.**

Holiday Water Company believes the proposed financing is **(a)** within the corporate powers of Holiday Water; **(b)** compatible with the public interest, as it will address water supply and pressure issues; **(c)** compatible with sound financial practices, as WIFA has the ability to provide the best possible interest rate; **(d)** compatible with the proper performance by Holiday Water of service as a public service corporation; and will not impair its ability to perform that service.

7. **The name and address of any person receiving, or entitle to, a fee for service in connection with the issuance or sale of the financing and a demonstration that such fees do not exceed customary fees for such service in an arms-length transaction and are reasonable.**

   WIFA does not charge service fee. Under WIFA's CIFR policy, the interest and fee components are indistinguishable until the loan is closed.

8. **Provide a copy of any documents to be executed in the matter.**

   There are no documents to be executed in this matter at this time.

9. **Provide the most recent balance sheet and income statement showing booked amounts and pro forma adjustments to record and show the effect of the transaction. Provide any other statements (such as pro forma statements from prior periods) that would demonstrate that the security issuance and sale is consistent with sound financial practices.**

   A financial analysis was done similar to that of WIFA's (debt service minimum requirement of 1.2) using the past five year's Annual Reports (2008-2012).

   Benchmarking of Annual Report data:
   Profit Margin – below average, weak
   Short-Term Liquidity – below lower quartile, weak
   Median Household Income (MHI) – below state average (using 2010 census data)
   Fixed Assets/Total Assets – below average, weak
   Current Liabilities/Total Liabilities & Equity – below average, weak

   See Exhibit D for Company balance sheet and income statement data

10. **The Commission requires the Company to notice customers of the financing application. Attached is a copy of the notice to be used.**

    The notice, **attached as Exhibit E**, will be mailed to customers with the Rate Increase Application Notification on 7/3/2013.

Exhibit A

WIFA's Disadvantaged Community Policy

Disadvantaged Community Designation

WIFA Policy #: III.6

Purpose:

Outline the criteria to designate a drinking water system or wastewater system as a Disadvantaged Community and define the additional benefits available to Disadvantaged Communities.

Policy:

Section 1: Disadvantaged Community Designations
The Board may designate an applicant as a Disadvantaged Community if the applicant satisfies one of the following:

1. The community is a designated "colonia" community through the federal government, or
2. The applicant meets the following criteria:
   a. The applicant's project is above the 50th percentile on the DWRF or CWRF Project Priority List; and
   b. WIFA awarded the applicant 50 or more Local Fiscal Capacity points on the DWRF or CWRF Project Priority List.

Section 2: Disadvantaged Community Financing Options
After the Board designates a drinking water or wastewater system as a Disadvantaged Community, and the applicant fails to meet the applicable WIFA financial capability requirements as defined by WIFA Policies III.7 and III.8, WIFA may reduce the Combined Interest and Fee Rate (CIFR), and extend the term beyond the standard financial assistance term in accordance with the financing options listed below. WIFA may reduce the CIFR calculated in accordance with Procedure III.3.1 at the time of loan closing. "Standard Financial Assistance Term" is defined by Policies III.7 and III.8 as follows:

Standard Financial Assistance Term: The standard loan term for design loans shall be three years. The standard loan term for long-term loans shall not exceed 20 years or the useful life of the facilities financed if the useful life is less than 20 years. In accordance with WIFA Policy III.6, the Board may designate an applicant as disadvantaged and extend the term for long-term loans beyond 20 years up to a maximum of 30 years.
Note: Extended loan terms for Clean Water financing must have appropriate debt authority which may include voter authorization.

The Disadvantaged Community financing options include:

Option 1: WIFA may either (a) reduce the CIFR on a standard financial assistance term to a rate lower than would otherwise apply, but not below the minimum rate of 2.0% or (b) extend the term to longer than 20 years, but not beyond the maximum of 30 years, whichever

permits the Disadvantaged Community to obtain the required debt service coverage, and in each case, only to the extent necessary to obtain the required debt service coverage.

Option 2: If the Disadvantaged Community cannot obtain the required debt service coverage under Option 1, WIFA may both (a) reduce the CIFR to a rate lower than would otherwise apply, but not below the minimum of 2.0% and (b) extend the term beyond the standard financial assistance term, but not beyond the maximum of 30 years, to the extent necessary to obtain the required debt service coverage requirement.

Note: On May 27, 2009, the Board approved the dedication of $2 million for loans to very small drinking water systems, defined as serving less than 3,300 customers with less than 1,000 connections. Loans provided to these systems will be at a rate of 1.0% interest.

Section 3: Security Levels
WIFA may require Disadvantaged Community applicants to execute additional levels of security as follows:

Applicant Type	Security Type
Governmental	
City or Town	General Obligation
Community Facility District	General Obligation
Domestic Water Improvement District	Special Assessments
Municipal Improvement District	Not Applicable
Non-Governmental	
Association/Cooperative/Non-Profit	Liens on Personal Property
Privately/Investor Owned	Personal Guarantee

The Board may, if requested and justified by the Disadvantaged Community applicant, waive the additional security levels.

Section 4: CIFR Adjustments
Unless justified by the Disadvantaged Community applicant and waived by the Board, WIFA will adjust the CIFR as follows:

Standard Term

Year of Term	Amount Added to CIFR
Start of Year 6	25% of the difference between the Standard and Reduced CIFR
Start of Year 11	50% of the difference between the Standard and Reduced CIFR
Start of Year 16	75% of the difference between the Standard and Reduced CIFR

Beyond 20 Year Term, up to 30 Year Term

Year of Term	Amount Added to CIFR
Start of Year 6	17% of the difference between the Standard and Reduced CIFR
Start of Year 11	33% of the difference between the Standard and Reduced CIFR
Start of Year 16	50% of the difference between the Standard and Reduced CIFR
Start of Year 21	67% of the difference between the Standard and Reduced CIFR
Start of Year 26	83% of the difference between the Standard and Reduced CIFR

Responsibility: Chief Financial Officer

Statutory Reference: A.R.S. Title 49, Chapter 8

Rule Reference: A.A.C. R18-15-104

Original Issue Date: January 11, 2000

Previous Amendment Date(s): February 15, 2006, April 18, 2007

Most Recent Amendment Date: October 20, 2010 (*Replaces All Previous Versions*)

Approval:

Interim Executive Director	**Date**

Exhibit B

ADEQ ATC Application

ADEQ Arizona Department of Environmental Quality

ENGINEERING REVIEW SECTION
APPLICATION FOR APPROVAL TO CONSTRUCT DRINKING WATER FACILITIES
ADEQ/WQD-114DW

INSTRUCTIONS

Please fill out and submit this Application for Approval to Construct Drinking Water Facilities (ATC) to obtain authorization to construct a public drinking water system in accordance with Arizona Administrative Code (A.A.C.) R18-5-505.

GENERAL APPLICATION PROCESS

1. Submit this ATC and appropriate supplemental information and forms, which are identified in this form. Please refer for Form 222 (http://www.azdeq.gov/environ/water/permits/download/222.pdf) for guidance on what should be submitted with this application and the number of copies. Please see the document entitled Application Submittal Locations (http://www.azdeq.gov/environ/water/permits/download/appsub.pdf) to determine where to submit your application (County, City, or ADEQ Regional Office).

2. As of December 6, 2008, the following fees are in effect:

Fee Category (R18-14-202)	Fee[a, b]
Approval to Construct for a Public Water Distribution System:	
o 150 of fewer service connections	$900
o 151 to 300 service connections	$1,400
o 301 to 450 service connections	$1,900
o 451 to 600 service connections	$2,400
o 601 to 750 service connections	$2,900
o Each additional 150 service connections	Add $500
Water Treatment Plants and Blending Plans (including new source approval if applicable):	
o < 0.1 Million gallons per day (MGD)	$1,500
o ≥ 0.1 MGD and < 1.0 MGD	$2,000
o ≥ 1.0 MGD and < 5.0 MGD	$3,000
o ≥ 5.0 MGD	$5,000
Well (including new source approval if applicable), each	$1,250
Storage Tank, each	$800 x 2 = $1,600
Booster Pump, each	$800 x 2 = $1,600
Main Line Extension (for minor water line extensions only)	$250
Chlorinators/Disinfection Devices, each	$250
Extension of Time to Construct[c]	50% of the application fee, not to exceed $500
Priority Review Fee[d]	Double the Standard Fee

Notes:

a. Fees are calculated on a per-unit basis: i.e., a separate fee is assessed for each separate storage tank, booster pump, disinfection device or well.
b. Fees for each application type are cumulative; an applicant must pay the total of all pertinent fees.
c. Extensions of time to construct are issued pursuant to A.A.C. R18-5-505(E): the Section states than an Approval to Construct becomes void if construction is not commenced within a specific time period, unless the Department grants an extension of time.
d. Priority Review projects require Department authorization prior to filing.

3. Satisfy any deficiency requests arising from the Department's pre-construction review of the submitted information.

4. Receive an "Approval to Construct (ATC)" from the Department authorizing construction of the water distribution system.

5. Begin construction of the water system within one year of the signed approval to construct and complete construction within three years from signed Approval to Construct (ATC).

LICENSING TIME FRAMES

Licensing Time Frames are specified by Arizona Department of Environmental Quality in AAC R18-1-525, which limits the number of business days ADEQ can review your project without a penalty. They are:

License Type	Administrative Review	Substantive Review	Overall Time Frame
Approval to Construct drinking water treatment facility, project or well.			
Standard	16	37	53
Complex	16	67	83
Drinking Water New Source Approval			
Standard	16	37	53
Complex	16	67	83
Time Extension Approval			
Standard	16	16	32

HOW TO NAME YOUR PROJECT

Name the project according to one of the following guidelines:

1. If a distribution system serves a specific subdivision, assign the same name "XXX Subdivision."
2. If a distribution system serves a specific facility, assign that name "XXX RV Park" or "...XXX Campground" or "....XXX Shopping Center."
3. If a water main that does not directly service any residences or other facilities but which will enable facilities and their water mains further upstream to connect to a water line extension: "XXX 'Water Line Extension."

ADEQ Arizona Department of Environmental Quality

ENGINEERING REVIEW SECTION
APPLICATION FOR APPROVAL TO CONSTRUCT DRINKING WATER FACILITIES
ADEQ/WQD-114DW

GENERAL INFORMATION

1 Project Information ☒ Standard review ☐ Priority review ☐ Time extension (renewal)

Project Name: **Water System Upgrades**

Project Description: **Upgrades to the water system for this project include, purchase of a second well, the installation of two (2) new 10,000 gallon HDPE storage tanks, booster pump station with two (2) 3 hp booster pumps capacity 37-gpm each, and associated interconnecting piping.**

2 Applicant (Owner or Developer)

Name: Carol Cowan Phone: (520) 508-9037

Title: Owner Firm Name: Holiday Water Company

Mailing Address: P.O. Box 309

City: Tombstone State: AZ Zip: 85638

E-mail Address: holidaywtr@gmail.com

3 Applicant's Agent, if any (Engineer or Consultant)

Name: Blake E. Abts Phone: (480) 755-1042

Arizona BTR Registration Number: 50812 Fax: (480) 755-1043

Title: Water & Wastewater Engineer Firm Name: Tres Rios Consulting Engineers, Inc.

Mailing Address: 4820 E. McDowell Road, 101

City: Phoenix State: AZ Zip: 85008

E-mail Address: blake@trce.net

4 Site Information

County: Cochise Nearest City: Tombstone

Township: 19 S Range: 23 E Section: 33 , Quarter Section: NE SE SW NW X

Latitude: 31 ° 44 ‘ 29.35 “ N Longitude: 110 ° 0 ‘ 35.53 “ W

5 Existing Environmental Permits (Check One)

List any other federal or state environmental permits issued for or needed by the facility, including any related Approvals to Construct (ATCs) or Approvals of Construction (AOCs) that may have previously been authorized and are related to this application (attach additional pages or copies if necessary)

DEPARTMENT USE ONLY		DATE STAMP
File Number		
Fee Paid for this Project		
Check Total		
Date Compliance Status Request Sent		

ADEQ Arizona Department of Environmental Quality

ENGINEERING REVIEW SECTION
APPLICATION FOR APPROVAL TO CONSTRUCT DRINKING WATER FACILITIES
ADEQ/WQD-114DW

SUPPLEMENTAL INFORMATION

6 Water System Details ☐ Check Box if this is a New Public Water System currently under Capacity Development review

Water System Name: **Holiday Water Company** System Number: 02-018

7 Water System Contact Person or ☒ Check Box if same as in Item 2

Name: _____ Phone: _____

Title: _____ Firm Name: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

E-mail Address: _____

8 Drinking Water Service Agreement (Check Box if applicable)

☐ I have attached a completed Drinking Water Service Agreement form.
http://www.azdeq.gov/environ/water/dw/download/serviceagreement.pdf

9 Site Plan and Fee (Check Box if Complete)

☒ I have provided a general site plan showing the boundaries and key aspects of the project.

☒ I have provided the appropriate fee (see instructions)

10 Selected Components Included (Check All Components that Are being Applied for)

☐ **Main Line Extension Information (for minor water line extensions only)**

A) Please include details for the main line extension:

Diameter (in)	Length (ft)	Material	From Station – To Station

☒ **Public Water Supply Distribution System Information**

A) Number of connections:

1. ☐ ≤ 150 2. ☒ 151 to 300 3. ☐ 301 to 450 4. ☐ 451 to 600 5. ☐ 601 to 750 6. ☐ > 750

32 Actual Number of connections per this application. 32 No. Residential _____ No. Commercial

32 Single-Family _____ Multi-Family

B) Total population to be served by the new system: 110

C) Design Flow of System.

1. Average Design Flow (Peak Month)	15,008 gpd	10.5 gpm	75 psi
2. Peak Daily Demand Flow	52,528 gpd	36.5 gpm	75 psi
3. Required Fire Flow	0 gpm	0 duration	_____ psi
4. Fire Flow and Peak Hourly Demand (Total)	0 gpm	at _____ psi	

ADEQ Arizona Department of Environmental Quality

ENGINEERING REVIEW SECTION
APPLICATION FOR APPROVAL TO CONSTRUCT DRINKING WATER FACILITIES
ADEQ/WQD-114DW

☐ **Water Treatment Plant Information** ☐ **Surface Water** ☐ **Well Water**

A) Please select the capacity of the treatment plant:

- ☐ < 0.1 Million gallons per day (MGD)
- ☐ 0.1 to <1.0 MGD
- ☒ 1.0 to <5.0 MGD
- ☐ ≥ 5.0 MGD

B) Indicate the inorganic/organic contaminant(s) for treatment.

Contaminant	Lab Result (ppb)	Technology Used to Treat (Filtration, RO, Absorptive Media, Ion Exchange, etc)	Predicted Final Treatment Value (ppb)

☐ **Blending Plan Information**

A) Please select the capacity of the blending plan:

- ☒ < 0.1 MGD
- ☐ 0.1 to <1.0 MGD
- ☐ 1.0 to <5.0 MGD
- ☐ ≥ 5.0 MGD

☒ **Well Approval Information**

☒ New Source Approval.
1. ☒ I have attached a copy of the ADWR Notice of Intent to Drill Well (NOI)
2. ADWR Well # 55-_208437_____
3. ☒ Water test results submitted, or ☐ Water test results will be submitted with the AOC application
4. ☐ Capacity Development Application has been submitted

☒ Existing Well.
1. ☒ Change of Status Form Included (if Applicable)
2. ADWR Well # 55-_208437_____

☒ **Storage Tank Information**

A) Please indicate the following information for the storage tanks associated with this project:

Tank Number	Tank Capacity (gallons)	Material of Construction	Liner Material or Corrosion Protection
1	10,000	HDPE	
2	10,000	HDPE	

☒ **Booster Pump Information**

A) Please include the details for each booster pump:

Pump Number	Pump Rated Capacity	Horsepower	Manufacturer	Model #
1	37-gpm	3	Grundfos	CRE 5-9
2	37-gpm	3	Grundfos	CRE 5-9

☐ **Chlorinator and/or Disinfection System Information**

☐ Gas ☐ Tablet

☐ **ATC Time Frame Extension Information**

Original ADEQ File #_____

☐ **Priority Review Fee Information**

☐ The fees included are double the standard fees for all items for review

11 Construction Quality Drawings (Check Box if Complete)

a. The engineering plans must be final plans. Plans marked preliminary, not for construction or similar languages will not be reviewed.
b. Specifications are included in the construction drawings and/or are a separate attachment;
c. The profiles of all waterlines 10" and greater must be shown on engineering plans.
d. The plans must include thrust block details, pipe bedding details, blow-off valves (as caps will not be accepted) and air release vales (ARV) are required at all high points.
e. Backflow in accordance with R-18-4-115

☒ I have provided all the information listed in a. though d. above.

12 Water Distribution System Design Flows (Check Box if Complete)

☐ I have attached documentation of design and fire flows for significant components of the drinking water distribution system and the basis for calculating the design flows.

13 Design Report (Check Box if Complete)

☒ I have included design documents, including plans, specifications, drawings, reports, and calculations that are signed, dated, and sealed by an Arizona-registered professional engineer. The designer shall use good engineering judgment following engineering standards of practice, and rely on appropriate engineering methods, calculations, and guidance. A design report will describe the proposed construction and basis of design, provide design data and other pertinent information that defines the work to be done, and establishes the adequacy of the design to meet the system demand. A design report provides information such as water pressure of existing waterline, minimum water pressure during fire flow, water capacity required to fulfill overall water needs, etc.

ADEQ Arizona Department of Environmental Quality

ENGINEERING REVIEW SECTION
APPLICATION FOR APPROVAL TO CONSTRUCT DRINKING WATER FACILITIES
ADEQ/WQD-114DW

14 Certification Statement (To be completed by the Applicant's Agent in item 3 above)

I, Blake E. Abts, certify that this Application for Approval to Construct and all attachments were prepared under my direction or authorization and all information is, to the best of my knowledge, true, accurate and complete. I also certify that the drinking water system described in this form is or will be constructed, designed, and operated in accordance with terms and conditions of the Drinking Water Systems (A.A.C. R18-5-505) and applicable requirements of Arizona Revised Statutes Title 49, Chapter 2, and Arizona Administrative Code Title 18, Chapter 5 regarding drinking water systems and sanitary facilities for subdivisions.

Blake E. Abts — 7/2/2013

Signature of Applicant's Agent (Engineer or Consultant) — Date

15 Certification Statement (To be completed by the Applicant in item 2 above)

I, Carol Cowan, am aware that there are significant penalties for submitting false information including permit revocation as well as the possibility of fine and imprisonment for knowing violations. I hereby a) grant ADEQ permission to enter the site for inspections; b) authorize the Project Engineer to prepare and submit plan documents to the ADEQ Engineering Review Desk (if entered in item #3); and c) agree to construct the sanitary facilities according to the ADEQ Certificate of Approval and the approved plan documents.

Carol E Cowan — 7/1/2013

Signature of Applicant (Owner or Developer) — Date

Tres Rios
Consulting Engineers

DESIGN MEMO

To:	Mrs. Carol Cowan (Holiday Water Co.)
From:	Jeff Bower, PE
Project Name:	Well Sites 1 & 2 and Distribution Upgrades
Date:	2 July 2013 (rev. 2 original 6/21/13)
Subject:	Water System Upgrades Plan Outline
XC:	Blake Abts, PE Jon Bernreuter

Hi, Carol

This design memo summarizes the plan for the Well Sites 1 & 2 upgrades as well as the distribution improvements.

1.0 INTRODUCTION

The Well 1 Site currently consists of the following equipment:

- Well 1, groundwater well pumps 30-gpm.
- Storage Tank 1 (20,000 gallons).
- Storage Tank 2 (5,000 gallons).
- Booster Pump, pumps 55-gpm.
- Hydropneumatic Tank (2,000 gallons).

The Well 2 Site currently consists of the following equipment:

- Well 2, groundwater well pumps 20-gpm.
- VFD well starter and 50-gallon bladder tank.

When pumping together into the water distribution, Wells 1 & 2 are capable to providing up to 72,000 gallons per day (50-gpm x 24-hours). However, currently water system summer demands are exceeding this supply – in the second week of June 2013, the daily water demands averaged approximately 74,000 gpd. The additional water was supplied by the emergency connection with the City of Tombstone.

2.0 WELL 1 SOUNDER TESTING

Also, Well 1 has been pumping well over 30-gpm until the past 6-7 years when it's production noticeably dropped off. Well 1 was installed in 1963 and reported pumping rates of up to 100-gpm. There is no available data indicating how the well it produced over the past few years, however the well was sounded on 6-21-13 and the results are as follows:

Sounder Testing of Well #1 (21 June 2013).

- 7:07 am Well pump running at 30-gpm (422.8 feet)
- 7:11 am Well shut-off – very slow recovery was measured (less than 1-ft in 5 minutes or longer).
- 8:28 am Well 1 static level (417.3 ft)

The results of the testing indicates that the well perforations are likely impaired. The very slow recovery rate is indicative of poor hydraulics between the well and the aquifer formation. The well perforations for wells of this age (1963 installation, approximately 50 years) typically have substantial corrosion and built-up around the performations, so that the flows are greatly reduced.

However, the well only exhibited a draw-down of approximately 5-ft for the 30-gpm pumping rate. This indicates a highly transmissive well (specific capacity = 6-gpm/ft). So, at 100-gpm, the well would only draw-down approximately 17-ft. Many wells in Arizona often only have a specific capacity of 2-gpm/ft or less.

It is recommended to install a new Well 1-B on this same site. The new well should be installed approximately 60-ft to the north/northwest of the existing well. Well 1-B will be constructed with 8" mild steel blank casing down to 500-ft. Afterwards, the screened interval form 500 to 650-ft should be installed with louvered casing and a suitable gravel pack. The upper 20-ft of the well should include a surface or conductor casing and a 3-ft casing stickup in compliance with ADEQ Rules.

With a new well that may pump 80-gpm or more on the Well 1 Site, Holiday Water will be able to maintain supplies to the entire service area for many more years. The City of Tombstone water connection will remain for emergency supplies.

3.0 WELL #1 SITE UPGRADES

The Well 1 Site will be upgraded to a new Well 1-B installation and addition of another 5,000-gallon HDPE storage tank. The Well 1-B will be installed approximately 60-ft to the north/northwest of the existing well. Well 1-B will pump to the storage tanks by connecting to the existing Well 1 piping. The well will be fenced for security.

The Water Company currently owns and unused 5,000 HDPE tank that can be used for storage. The 5,000 gallon tank will be added to the storage with a new pad foundation and piping.

4.0 WELL 2 SITE UPGRADES

The Well 2 site will be upgraded as follows:

- 15,000 gallon storage (2 ea, 10,000 gallon HDPE tanks with nominal 16,000 gallon service capacity).
- Booster Station (2 ea, 2-1/2 HP booster pumps, VFDs, and bladder tank).

After installing the new Well 1-B, most of the water system will be served by Well 1-B. As such, the water system will be separated into pressure zones to help improve water pressures on the higher elevations near Well 2.

The water system currently serves approximately 160 units. The daily water use reported and analyzed this June 2013 revealed water demands of approximately 75,000 gpd, or 470-gallons per day per unit. This the high use, or summer peak month, daily demand that will govern storage estimations – as opposed to an annual average which will under estimate the summer storage requirements.

The design criteria is in compliance with the Arizona Revised Statues ("ARS") Title 18, Section 5, Part 503-A ("R 18-5-503-A) stating, "the minimum storage capacity for a CWS [water provider] or a noncommunity water system that serves a residential population or a school shall be equal to the average daily demand during the peak month of the year." Historically, the peak month is June for Holiday Water Company.

Well 2 pumps 20-gpm or up to 1,200 gallons per hour. The Well should only pump up to 12-hours per day for peak demands in order to allow aquifer recovery for the remainder of the 24-hour cycle. So, the well should only pump up to 14,400 gpd – use 15,000 gpd. Therefore, the storage capacity should be 15,000 gallons of service capacity.

At 15,000 gpd, Well 2 can provide up to 32 services for peak seasonal demands in the high elevation zone (Pressure Zone 2) – total of 15,040 (use 15,000 gpd).

The booster pumps will provide up to 3.5 x the peak daily, or 35-gpm (3.5 x 14,400 gpd / 1,440). The anticipated pressure at the Well 2 site will be 75-psi* in order to maintain adequate pressures in this high elevation zone. At this pumping rate and pressure, the booster pumps will be 2-1/2 HP each.

$$hp = \frac{(gpm)(TDH)}{(3{,}960)\ (efficiency)}$$

where,

gpm = 35-gpm TDH = 173.25-ft (75 psi) efficiency = 65%

*Recent pressure readings taken by the water company revealed that Well 2 currently pumps at approximately 40-psi. Low readings were taken at some higher elevation sites that indicated pressures of 15-psi. To elevate these lower pressures to 50-psi, an additional pressurization of 35-psi will be required. So, the Well 2 booster pumps should provide approximately 75-psi (40+35) for the Zone 2.

5.0 DISTRIBUTION SYSTEM UPGRADES

The distribution system will require separation of two (2) pressure zones as already designed. The pressure zone served by Well 1 Site will be Pressure Zone #1. The pressure at the well site will remain at 85-psi, or may be slightly reduced after the zones are activated. Lowering of the pressures within Zone #1 – if possible – can help slightly reduce operating costs at the Site.

The Well 2 Site will be within the newly created Pressure Zone #2. This zone is at a higher elevation and has been problematic when trying to maintain pressures above 20-psi at some services. The target pressure is approximately 75-psi at the well site – an increase of approximately 35-psi throughout the Zone. This should elevate some of the very low readings found at 15-psi (+/-) to approximately 50-psi. The minimum design pressure allowable by the ADEQ for new systems (or pressure zones) is 40-psi for normal use.

The topography within Zone #2 varies significantly, but two (2) key locations were found to be suitable for installation of pressure sustaining valves. The valves will elevated water pressures in Zone #2 and create a distinctive break between the water systems.

If Well 2 were to fail, the water from Zone #1 will fill Zone #2. However, the water pressures will be back down to pre-separation levels.

6.0 PROJECT CHECK LIST

Below is a project Action Item Check list.

- ☐ ATC Application – Revise the Well 2 upgrades for the current submittal.
- ☐ Submit WIFA loan funding paperwork for $225,000 budget.
- ☐ Drill and Test Well 1-B
- ☐ New Source Testing for Well 1-B
- ☐ ATC Application for Well 1-B Upgrades
- ☐ New Source Approval for Well 1-B Application

EXHIBIT

1. Budget Cost Estimate

Engineer's Estimate of Probable Construction Costs

FOR

Well 1 and 2 Site & Distribution Upgrades

SUBJECT	ESTIMATOR	CHECKER
Well 1-B Installation and Well 2 Improvements	B.E. Abts	J. W. Bower

DESCRIPTION

Holiday Water Company.
Well 1-B Installation and Well 2 Improvments Project.

Work includes pressure zones and backhoe purchase for Water Company.

ITEM DESCRIPTION	LABOR & EQUIPMENT	MATERIAL	TOTAL COST
CONSTRUCTION COSTS			
1.0 WELL 1 SITE CONSTRUCTION			
1.1 Drill new Well 1-B and casing to surface (60+ gpm) (8" blank steel casing to 500', 8" louveres 500' - 650')	$ 35,000.00	$ 15,000.00	$ 50,000.00
1.2 Install 20-hp Well Pump & Starter (3 phase, 480V)	$ 20,000.00	$ 30,000.00	$ 50,000.00
1.3 Set up 5,000 HDPE Tank (pipe & pad)	$ 500.00	$ 2,500.00	$ 3,000.00
1.4 Well 1-B New Source Approval testing	$ 500.00	$ 3,500.00	$ 4,000.00
1.5 Well Site Fencing	$ 2,000.00	$ 3,000.00	$ 5,000.00
SUB-TOTAL 1			*$ 112,000.00*
2.0 WELL 2 SITE CONSTRUCTION			
2.1 Purchase existing well	$ -	$ 15,000.00	$ 15,000.00
2.2 Install 20,000 tank (2 ea, 10,000 HDPE, pad & pipe)	$ 3,000.00	$ 15,000.00	$ 18,000.00
2.3 Well 2 booster station (2 ea. 3hp & VFDs)	$ 5,000.00	$ 10,000.00	$ 15,000.00
2.4 Well 2 site work (fencing, pipes)	$ 5,000.00	$ 10,000.00	$ 15,000.00
SUB-TOTAL 2			*$ 63,000.00*
3.0 DISTRIBUTION			
2.1 Install Pressure Valves (2 ea)	$ 2,000.00	$ 8,000.00	$ 10,000.00
2.2 Backhoe purchase	$ -	$ 5,000.00	$ 5,000.00
SUB-TOTAL 3			*$ 15,000.00*
TOTAL	$ 73,000.00	$ 117,000.00	$ **190,000.00**
Contingency (20%)	18%	$ 34,200.00	$ 35,000.00
Estimate of Project Budget			$ 225,000.00

ENGINEERING ANALYSIS:

WATER SYSTEM UPGRADES

Holiday Water Company
Tombstone, ARIZONA

Prepared for :

Holiday Water Company
P.O. Box 309
Tombstone, AZ 85368
(520) 508-9037

Prepared by :

Tres Rios
Consulting Engineers

Tres Rios Consulting Engineers, Inc.
4820 E. McDowell Road, Suite 101
Phoenix, Arizona 85008
(480) 755-1042

Tres Rios
Consulting Engineers

Project Number: 113612
Project Name: Water System Upgrades
Subject: Engineering Analysis
By: BeA Date: Jul 2013
Checked by: JWB Date: Jul 2013

TABLE OF CONTENTS

SUMMARY OF CONCLUSIONS

The Holiday Water Company wishes to make improvements to their water system. This Engineering Analysis analyzed the water demand of the system based on the meter reads that were provided to Tres Rios from the company. The water demands help determine the amount of water storage required and recommended for the Well #2 Service Area. When storage is required booster pumps are used to pump the water through the distribution system. This analysis also looked at the proposed booster pump station and the existing Well #2 Pump. Here is a summary of the results:

Water System Demand: Annual Avg. Daily System Demand: 42,267 gpd, Highest Month = 75,000 gpd
Water System Demand Per Service: Annual Avg. Daily = 264 gpd/svc, **Highest Month = 469 gpd/svc**
Well #2 Service Area: # of Services = 32. Total Population Served by Well #2 = 110
Well #2 System Demand: Annual Daily Avg. = 8,453 gpd, **Highest Month Daily Avg. = 15,000 gpd**.
Peak Hour System Demand: 35-gpm
Water Storage: Minimum Required - 15,000 gallons. **Recommended Storage - 20,000 gallons**
Existing Well #2 Pump Capacity: 24 hr = 30,240 gallons. **Well #2 Pump 12 hr Run= 15,120 gallons.**
Booster Pump: **3-hp, 35-gpm @ 65-psig**.

Based on the summary of data above the water company is able to put together the design of the water system upgades to include two (2) new 10,000 gallon storage tanks, and a booster pump station with two (2) 3-hp booster pumps to meet peak hour demands and state requirements for redundancy. The current Well #2 Pump is sufficiently sized to keep up with a 12 hour run time during the peak season.

Tres Rios
Consulting Engineers

Project Number: 113612
Project Name: Well #2 Site Upgrades
Subject: Daily Water Use Calculations
By: BEA Date: Jul 2013
Checked by: JWB Date: Jul 2013

1. Water Use Calculations

	2013	2012	2011	Total Gallons Used	Average for the Month	# of Days/Month x 2 years	Avg. Gal. Used per Day
Month	Gallons Used	Gallons Used	Gallons Used	2011 + 2012 Month	Gallons Used	# of Days	GPD
January	933,520	*741,630*	954,920	1,888,440	944,220	62	30,459
February		1,258,460	*759,870*	1,258,460	1,258,460	29	43,395
March		1,131,120	1,641,740	2,772,860	1,386,430	62	44,724
April		971,130	1,455,030	2,426,160	1,213,080	60	40,436
May		1,619,240	1,863,330	3,482,570	1,741,285	62	56,170
June	***2,250,000***	1,678,420	1,218,920	5,147,340	2,573,670	90	57,193
July		1,492,530	1,088,180	2,580,710	1,290,355	62	41,624
August		1,405,700	1,146,250	2,551,950	1,275,975	62	41,160
September		1,138,300	1,107,460	2,245,760	1,122,880	60	37,429
October		1,401,270	1,007,400	2,408,670	1,204,335	62	38,850
November		1,072,330	*775,090*	1,072,330	1,072,330	30	35,744
December		982,370	895,850	1,878,220	939,110	62	30,294
Annual		14,150,870	12,379,080	29,713,470	14,262,488	703	**42,267**
Monthly Avg.		1,286,443	1,237,908		**1,350,612**	30.6	

Service Connections = 160 Units Population of Service = 550 residents

*Note: Data in italics were not used for these calculations. These meter readings were not accurate and therefore left out of any calculations. Data in **Bold and Italics** was exptrapolated from the recently recorded 75,000 gpd avg. over a two week period in June of 2013. This avg. exceeded historical peak month data and therefore is the basis for the peak month data in this Engineering Analysis.*

Tres Rios
Consulting Engineers

Project Number: 113612
Project Name: Well #2 Site Upgrades
Subject: Daily Water Use Calculations
By: BEA Date: July 2013
Checked by: JWB Date: July 2013

1.2 Water Demands Per Service and Service Area

Water System Service Connections =	160 Units
Total Population Served =	550 residents

Peak Season System Demands:

Avg. GPD Peak (June 2013) =	**75,000 gpd**

Average System Demands:

Annual Daily Average =	**42,267 gpd**
Historical High Month Daily Average (June) =	57,193 gpd
Low Month Daily Average (December) =	30,294 gpd

Water System Average Gallons Per Day Per Service:

Annual Average GPD / Service =	264 gpd / service
Peak Month Avg. GPD / Service =	**469 gpd / service**
Lowest Month Avg. GPD / Service =	189 gpd / service

Well #2 Service Area:

Well #2 Service Area Connections =	32 Units
Population of Well #2 Service Area =	112 residents

Average Well #2 Service Area Demands: (gpd/service x # of services)

Annual Daily Average =	8,453 gpd
Highest Month Daily Average (June 2013) =	**15,000 gpd**
Low Month Daily Average (December) =	6,059 gpd

*Use Average gpd/service from system.

Compared to Other Communities or Cities in Arizona:

Community	Amount	UNIT	# of Services
Arivaca =	144	GPD	125
Cactus Forest =	240	GPD	276
Oak Creek Valley =	460	GPD	150
Scottsdale =	485	GPD	(<2 residences / acre)
Why DWID =	425	GPD	100

Tres Rios
Consulting Engineers

Project Number: 113612
Project Name: Well # 2 Site Upgrades
Subject: System Storage Capacity
By: BEA Date:July 2013
Checked by: JWB Date: Julyl 2013

2.1 Required Minimum Storage Capacity at Well #2

Required Minimum Storage Capacity at Well #2 Storage and Pumping Site:

Required Storage = Highest Month GPD Avg. + Fire Protection Req.
Highest Month GPD = 15,000 gallons
Fire Protection = 0 gallons

Use Required Storage Capacity = **15,000 gallons**

*Fire Flow Requirements:

No Fire protection is provided by this water system. There are no plans for future fire protection from this system.

Proposed Storage:

Two (2) 10,000 gallon nominal capacity storage tanks
Total Proposed Storage = **20,000 gallons**

Actual storage capacity is reduced by allowing for tank overfill and pump stop levels. Usable storage capacity is estimated to be 8,900 gallons ea tank. Total = 17,800 gallons.

Tres Rios
Consulting Engineers

Project Number: 113612
Project Name: Well # 2 Site Upgrades
Subject: System Storage Capacity
By: BEA Date:July 2013
Checked by: JWB Date: July 2013

3.0 Well #2 Production Capacity

Well #2 = 21 gpm (See Pump Curve pg. 14)

Feature		ft	psi
1. Elevation (Depth to S.W.L. + Drawdown)	=	540.00	*233.77*
2. System Pressure at Connection Point =		0.00	*0.00*
3. Pump Column Friction Losses =		27.39	*11.86*
4. Pipe & Fittings Friction Losses =		3.00	*1.30*
5. Elevation Head of Storage Tank =		30	12.99
	Total =	600.39	259.91

Pump Selection / Pressure-loss per Pump Stage

Pump Manufacturer = Grundfos
Pump Model = 25S50-26 (Current Well Pump Model Number)
Horsepower = 5

Well #2 Production Capacity

Existing Well #2 24 hr Well Pump Capacity:
Well Pump Flowrat 21 gpm **(See Pump Curve)**
Well Pump Run Ti 24 hours
Well #2 24 hr Production Ca 30,240 gallons

Recommended Well Run Time is 12 hours:
Well #2 12 hr Production Ca **15,120 gallons**

Notes:

1) It is recommended to operate the wells on a 12 hour run time to allow for aquifer recovery.

2) The recommended 12 hour run time of Well #2 will produce enough water to keep up with the Peak (Highest Month) Daily Average = 15,000 gpd.

3) No Fire protection is provided by this water system. There are no plans for future fire protection from this system.

Tres Rios
Consulting Engineers

Project Number: 113613
Project Name: Well # 2 Pressure Loss in Column Pipe
Subject: Well Pump Capacity Calculation
By: BEA Date: July 2013
Checked by: JWB Date: July 2013

3.1 WELL #2 PUMP PRESSURE LOSS IN COLUMN PIPE

z

Description: Determine head loss in well column piping for Well 2 with a 1.5" column pipe. Pump set at approx. 550 ft. bls. Water Level estimated at 540 ft bls during pumping. Calculation using Hazen-Williams formula.

Nom Diam (in)	ID (in)	Length (ft)	C	Flowrate (gpm)	hf (ft)	pressure (psi)	hf per 1,000 ft	Volume (gal)	Velocity fps
	0.25	550	130	21.00	167377.30	72530.17	304322.37	1.40	137.3
	0.75	550	130	21.00	798.48	346.01	1451.78	12.62	15.3
	1	550	130	21.00	196.96	85.35	358.11	22.44	8.6
	1.25	550	130	21.00	66.51	28.82	120.92	35.06	5.5
	1.5	550	130	21.00	27.39	11.87	49.80	50.49	3.8
	1.75	550	130	21.00	12.94	5.61	23.52	68.72	2.8
	2	550	130	21.00	6.76	2.93	12.28	89.75	2.1
	3	550	130	21.00	0.94	0.41	1.71	201.95	1.0
4	4	550	130	21.00	0.23	0.10	0.42	359.01	0.5
6	6	550	130	21.00	0.03	0.01	0.06	807.78	0.2
8	8	550	130	21.00	0.01	0.00	0.01	1436.06	0.1
10	10	550	130	21.00	0.00	0.00	0.00	2243.84	0.1
12	12	550	130	21.00	0.00	0.00	0.00	3231.13	0.1
16	16	550	130	21.00	0.00	0.00	0.00	5744.23	0.0
20	20	550	130	21.00	0.00	0.00	0.00	8975.36	0.0
24	24	550	130	21.00	0.00	0.00	0.00	12924.51	0.0
	36	550	130	21.00	0.00	0.00	0.00	29080.15	0.0

Flowrate = **21 gpm**
0.03 MGD
0.05 cfs

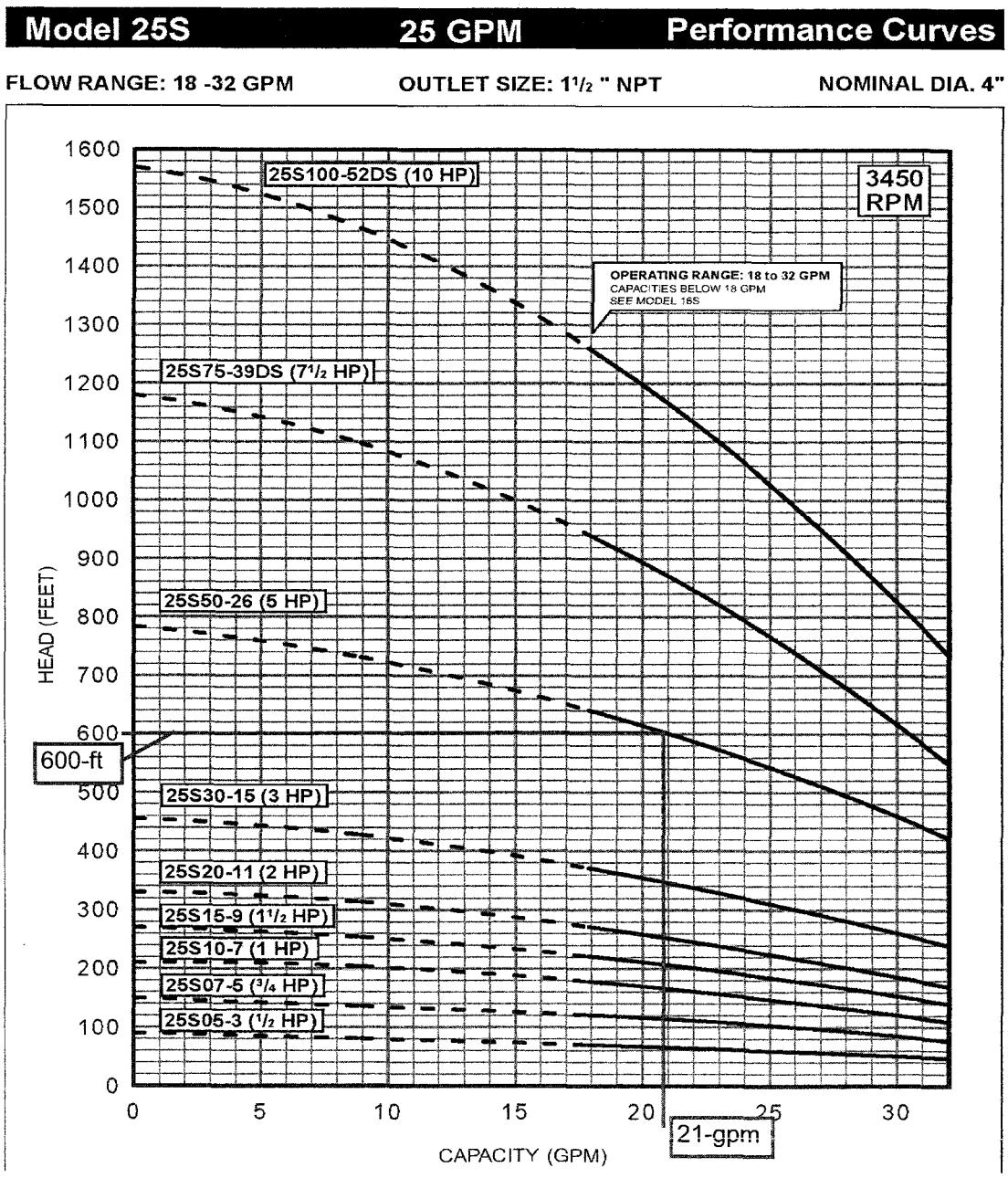
$$h_f = \frac{(10.44)(L)(Q)^{1.85}}{(C)^{1.85}(D)^{4.8655}}$$

Hazen-Williams formula where,

h_f	headloss due to friction [ft]
L	total length of pipe segment [ft]
Q	flowrate [gpm]
C	Hazen-Williams friction loss coef.
D	pipe diameter [in]

3.2. WELL 2 PUMP PERFORMANCE CURVE

Grundfos Model 25S50-26		Design Q =	21 gpm
Stages =	26	TDH =	600 ft
		TDH / Stage =	23.08 ft



4. BOOSTER PUMP STATION DESIGN

Well System Demands:

Avg. Annual Daily Demand =		8,453 gpd	
Max Day Flowrate =		16 gpm	
Peak Hour Flowrate =		31 gpm	
Use Peak Hour Flowrate =		**35 gpm**	(Max. Operation)
Max. Day Factor =	1.8		
Peak Hour Factor =	3.5		
Max. Hrs.of Pump Op. =	16		
Avg. Daily Avg. Flowrate =		9 gpm	(Normal Operation)
Low Daily Avg. Flowrate =		6 gpm	(Low Flow Operation)
Fire Requirements =		0 gpm (no hydrants)	

$$hp = \frac{(gpm)(TDH)}{(3{,}960)\ (efficiency)}$$

Calculate Pump Horsepower

flowrate =	35 gpm	Efficiency reduction	
TDH =	75.00 psi	by age =	100 percent
	173.25 ft		
efficiency =	65 percent	hp =	2.36 hp
		USE,	
hp =	2.36 hp	**hp =**	**3 hp**

Recommended:

Two (2) hp verticle in-line multistage booster pumps.

Design Parameters:
35 gpm
75 psi

Pump Model: Grundfos CR 5-9
VFD Controller

Low flow conditions will be accounted for by the variable frequency drive and a small 50-gallon bladder tanks.

Exhibit C

WIFA's Contract Package for Non-Governmental Borrowers

Water Infrastructure Finance Authority of Arizona
Clean Water Revolving Fund
Drinking Water Revolving Fund

CONTRACT PACKET for Non Governmental Borrowers

This packet lists required contract conditions that apply to all Clean Water and Drinking Water Revolving Fund projects and contains forms that must be used in the procurement process. Please review this packet prior to bidding. This packet must be physically included in all bidding, solicitation and contract documents.

PLEASE NOTE

- Federal Davis Bacon prevailing wages apply to this project. Payment of the wages, fringe benefits and overtime rates is required.
- The proposed DB wage determinations must be submitted to WIFA for approval prior to including the wage determination in any solicitation or contract, etc..
- The appropriate Federal (Davis Bacon) Prevailing Wage Decision Number must be physically incorporated into the bidding and contract documents.
- Weekly certified payroll submittal is required under the Federal Davis Bacon laws.
- Compliance with the Civil Rights Act and Equal Employment Opportunity is required.
- Promotion of Small, Minority and Women-owned Businesses and participation in Disadvantaged Business Enterprises (DBE) is required.

Water Infrastructure Finance Authority of Arizona
Clean Water Revolving Fund
Drinking Water Revolving Fund

Required Contract Conditions

This project is being financed in whole or in part by the Water Infrastructure Finance Authority of Arizona through the Clean Water or Drinking Water Revolving Fund. The loan recipient is required to comply with the following federal and state laws, rules and regulations and must ensure that their contractor(s) also comply(ies) with these regulations, laws and rules.

1. (i) Title VI of the Civil Rights Act of 1964 (Pub. L. 88-352, 42 U.S.C. Sec. 2000d), (ii) the Rehabilitation Act of 1973 (Pub. L. 93-1123, 87 Stat. 355, 29 U.S.C. Sec. 794), (iii) the Age Discrimination Act of 1975 (Pub. L. 94-135 Sec. 303, 89 Stat. 713, 728, 42 U.S.C. Sec. 6102), (iv) Section 13 of the Federal Water Pollution Control Act (Pub. L. 92-500, 33 U.S.C. Sec. 1251), and subsequent regulations, ensures access to facilities or programs regardless of race, color, national origin, sex, age or handicap.

2. Equal Employment Opportunity (Executive Order 11246, as amended by Executive Orders 11375 and 12086 and subsequent regulations). Prohibits employment discrimination on the basis of race, color, religion, sex or national origin. Inclusion of the seven clauses in Section 202 of Executive Order 11246 as amended by Executive Orders 11375 and 12086 are required in all project related contracts and subcontracts over $10,000.

3. (i) Promoting the use of Small, Minority, and Women-owned Businesses (Executive Orders 11625, 12138 and 12432), (ii) Small Businesses Reauthorization & Amendment Act of 1988 (Section 129 of Pub. L. 100-590), (iii) Department of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 1993 (Pub. L. 102-389, 42 U.S.C. Sec. 437d), and (iv) Title X of the Clean Air Acts Amendments of 1990 (Pub. L. 101-549, 42 U.S.C. Sec. 7601 note) ("EPA's 10% statute"). Encourages recipients to award construction, supply and professional service contracts to minority and women's business enterprises (MBE/WBE) and small businesses and requires recipients to utilize affirmative steps in procurement.

4. Participation by Disadvantaged Business Enterprises in Procurement under Environmental Protection Agency (EPA) Financial Assistance Agreements (40 C.F.R. Part 33).

5. Debarment and Suspension (Executive Order 12549). Prohibits entering into contracts or sub-contracts with individuals or businesses who are debarred or suspended. Borrowers are required to check the status of all contractors (construction and professional services) and must require contractors to check the status of subcontractors for contracts expected to be equal to or over $25,000 via this Internet address: epls.arnet.gov.

Exhibit D

Company balance sheet and income statement data

Holiday Water Company
Comparative Statement of Income and Expenses -- Page 8 of ACC Annual Reports
For Fiscal Years Ending December 31

	2008	2009	2010	2011	2012
Operating Revenues					
Metered Water Sales	55,701	54,992	53,831	53,877	54,953
Other Water Sales	1,227	583	706	264	722
Other Operating Revenue	0	0			0
Total Operating Revenues	56,928	55,575	54,537	54,141	55,675
Operating Expenses					
Salaries & Wages	23,148	43,372	35,660	32,385	6,146
Purchased Power	3,854	5,134	5,914	7,500	9,830
Purchased Pumping Power	0	0	0	0	0
Water Testing	1,259	416	1,767	1,433	1,554
Water Treatment	0	0	0	0	0
Repairs & Maintenance	4,747	3,032	6,523	6,449	2,801
Office Supplies & Expense	2,478	4,700	4,694	808	1,058
Outside Services	5,618	5,634	3,213	5,412	13,030
Leases	0	0	0	0	0
Rents	0	567	1,794	3,563	2,552
Transportation Expense	3,830	2,310	3,236	3,596	2,476
General Insurance	1,364	490	238	0	0
Health & Life Insurance	0	0	0	0	0
Regulatory Commission Expense - Rate Case	0	0	0	0	0
Miscellaneous Operating Expense	0	0	1,806	1,609	1,145
Taxes Other Than Property & Income	5,380	3,463	0	5,091	470
Property Tax	1,046	1,569	3,070	2,014	4,516
Depreciation	3,227	3,227	3,250	3,583	1,249
Income Tax	0	0	0	0	0
Total Operating Expenses	55,951	73,914	71,165	73,443	46,827
Operating Income (Loss)	977	(18,339)	(16,628)	(19,302)	8,848
Other Income/Expense					
Interest Income	0	0	0	0	0
Other Income	0		0	0	0
Other Expense	0	711	0	3,230	26,944
Interest Expense	0	6	0	995	5,245
Total Other Income/Expense	0	(717)	0	(4,225)	(32,189)
NET INCOME (LOSS)	977	(19,056)	(16,628)	(23,527)	(23,341)

For Fiscal Years Ending December 31	2008	2009	2010	2011	2012
Assets					
Current Assets					
Cash & Cash Equivalents	4,763	4,291	3,723	7,340	4,028
Marketable Securities	0	0	0	0	0
Accounts Receivable (less doubtful accounts)	6,590	6,405	9,601	8,007	5,656
Materials & Supplies	6,003	6,003	6,003	4,043	4,715
Other Current Assets	917	917	1,017	325	494
Prepaid Expenses	0	0	0	1,815	0
Total Current Assets	18,273	17,616	20,344	21,530	14,893
Other Assets					
Restricted Cash	0	0	0	0	0
Deferred Expenses	0	0	0	0	0
Deposits	0	0	0	0	0
Other Property & Investments	0	0	0	0	0
Investments in Affiliated Companies	0	0	0	0	0
Total Other Assets	0	0	0	0	0
Fixed Assets (less Accumulated Depreciation)	44,975	41,748	44,079	45,313	35,336
Total Assets	63,248	59,364	64,423	66,843	50,229
Liabilities					
Current Liabilities	49,979	65,151	46,418	66,686	73,054
Long-Term Debt & Leases (net of Current)	0	0	0	0	0
Other Liabilities					
Customer Advances to Aid Construction	0	0	0	0	0
Meter Deposits	0	0	0	0	0
Defferred Income Taxes & Tax Credits	0	0	0	0	0
Total Other Liabilities	0	0	0	0	0
Total Liabilities	49,979	65,151	46,418	66,686	73,054
Capitalization					
Equity					
Common & Preferred Stock	4,000	4,000	4,000	4,000	4,000
Additional Paid-in Capital	300	300	40,720	46,399	48,588
Retained Earnings	3,763	(15,293)	(31,921)	(55,448)	(78,419)
Proprietary Capital	0	0	0	0	0
Total Equity	8,063	(10,993)	12,799	(5,049)	(25,831)
Contributions to Aid Construction	5,206	5,206	5,206	5,206	3,006
Total Capitalization	13,269	(5,787)	18,005	157	(22,825)
Total Liabilities and Equity	63,248	59,364	64,423	66,843	50,229

Exhibit E

Notice to Customers

PUBLIC NOTICE
OF
AN APPLICATION FOR AN ORDER

AUTHORIZING THE ISSUANCE OF Debt BY Holiday Water Company

The Holiday Water Company filed an Application with the Arizonan Corporation Commission for an order authorizing Applicant to issuance $225,000.00 of Debt. The application is available for inspection during regular business hours at the office of the Commission in Phoenix, Arizona, and the Company's office in Tombstone, Arizona.

Intervention in the Commission's proceedings on the application shall be permitted to any person entitled by law to intervene and having a direct substantial interest in this matter. Persons desiring to intervene must file a Motion to Intervene with the Commission which must be served upon applicant and which, at a minimum, shall contain the following information:

1. The name, address and telephone number of the proposed intervenor and of any person upon whom service of documents is to be made if different than the intervenor.

2. A short statement of the proposed intervenor's interest in the proceeding.

3. Whether the proposed intervenor desires a formal evidentiary hearing on the application and the reasons for such a hearing.

4. A statement certifying that a copy of the Motion to Intervene has been mailed to Applicant.

The granting of Motions to Intervene shall be governed by A.A.C. R14-3-105, except that all Motions to Intervene must be filed on, or before, the 15th day after this notice

Docket No. W-01896A

AFFIDAVIT

I, **Carol E Cowan**, of Holiday Enterprises, Inc. dba Holiday Water Co, hereby certify that the customers notification attached to this affidavit was provided to all customers of Holiday Water Co by U.S. Mail on the 3rd day of July, 2013.

Carol E Cowan Date: 7/3/2013

Carol E. Cowan,
President/Manager

County of Cochise)
) SS
State of Arizona)

Signed before me this 3 Day of July, 2013

Susan A Jones
Notary Public

My Commission Expires:

OFFICIAL SEAL
SUSAN A. JONES
Notary Public - State of Arizona
COCHISE COUNTY
My Comm. Expires Aug. 3, 2014